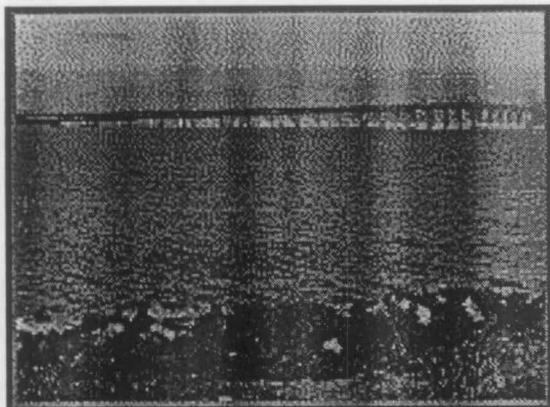




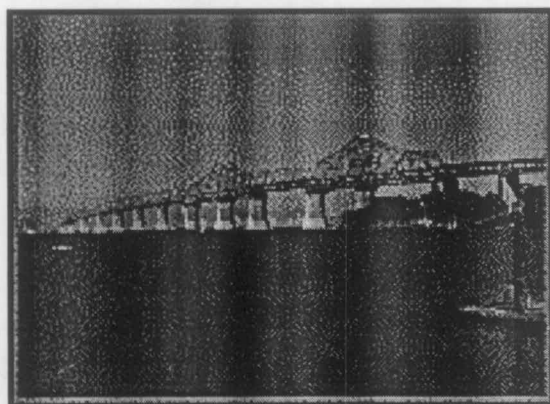
Retrofit/Replacement Facts

San Francisco-Oakland Bay Bridge

Retrofit of the Bay Bridge began in 1995 with a project to strengthen the eastern end of the bridge near the toll plaza. Work was well underway under direction to proceed as quickly as possible to make the bridge seismically sound when a replacement option began to take shape. The retrofit of the east spans would alter the appearance of the bridge. Click on the following photos for a larger view.



Notice added supports

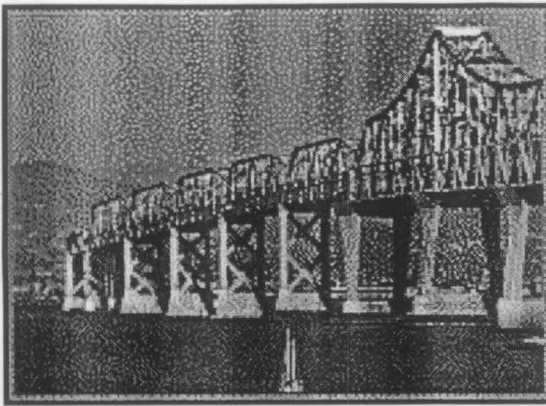


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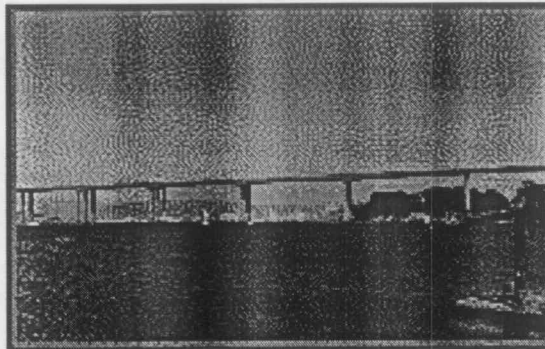
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Caltrans bridge engineers have examined a number of possible alternatives for a replacement structure to span San Francisco Bay between Yerba Buena Island and the Oakland shore. Included in all estimates are the anticipated mitigation costs for recordation of the existing east span, peregrine falcon monitoring, and wetlands mitigation at a one to one ratio. Costs for any additional mitigation would be added to the estimate.

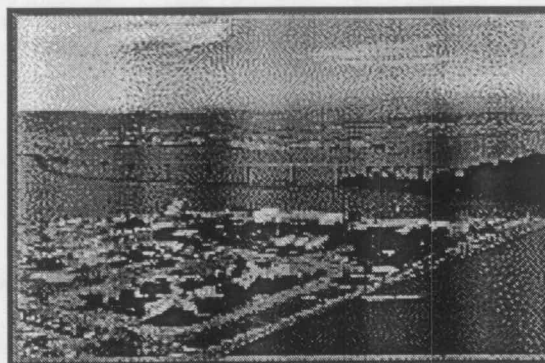
EAST SPAN REPLACEMENT OPTIONS



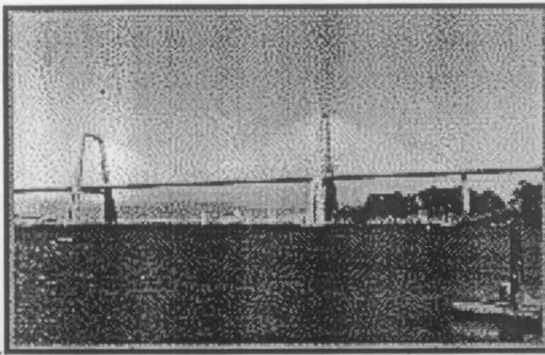
Steel-reinforced concrete skyway.

Renderings are not of the detail to show differences in bridge widths

Click on photos for larger view



Steel-reinforced concrete skyway.



Cable-stayed.



Cable-stay bridge.

SCHEDULE

Any schedule is based upon several decisions beginning with the design and environmental process. Once this key decision is made, a new bridge would follow this timeline approximately:

- 3 years for design and environmental compliance
- 1 year for permits, right of way, and contracting process
- 3 years for construction

INTERIM EAST SPAN RETROFIT

This work would involve installing additional steel cables to strengthen the existing bridge while construction proceeds on the replacement structure. Cost: \$29 million. This work would be in addition to the \$27 million project to strengthen the eastern approaches to the bridge which is currently under construction and scheduled for completion in late 1998.

WEST SPANS RETROFIT

This work involves strengthening the towers, superstructure and the foundations of the suspension bridge and the approach spans on both the San Francisco and Yerba Buena sides of the bay. Cost: \$391 million.

DEMOLITION OF THE EXISTING BRIDGE

With the opening of the replacement span, the existing bridge would be removed. Cost: \$46 million.

● New East Span Bridge \$ 1.0 B

● Interim East Span Retrofit \$ 29 million

● West Span Retrofit \$ 391 million

● Past East Span Expenditures \$ 58 million

● Demolition of Old Bridge \$ 46 million

● Total \$ 1.524 B

Cable Stay Option Costs

New East Span Bridge Cable Stay \$1.221 B

Interim East Span Retrofit \$ 29 million

West Span Retrofit \$ 391 million

Past East Span Expenditures \$ 58 million

Demolition of Old Bridge \$ 46 million

Total \$1.745 B

RETROFIT VS. SKYWAY REPLACEMENT

SFOBB East Span Retrofit \$ 909 million

West Span Retrofit \$ 391 million

SFOBB Total \$1.3 B

New East Span Bridge \$1.0 B

Interim East Span Retrofit \$ 29 million

West Span Retrofit \$ 391 million

Past East Span Expenditures \$ 58 million

Demolition of Old Bridge \$ 46 million

Total \$1.524 B

Total Toll Bridge Retrofit Program Comparison

Prior: SFOBB, all retrofit \$1.3 B

Retrofit other toll bridges \$ 780 million

Total \$2.080 B

Current: SFOBB-new east skyway \$1.524 B

Retrofit other toll bridges \$ 780 million

Total \$2.304 B

SFOBB- new east cable stay \$1.745 B

Retrofit other toll bridges \$ 780 million

Total \$2.525 B

Environmental Issues

environmental laws, including the California Environmental Quality Act and the National Environmental Policy Act. Because the SFOBB is listed on the National Register of Historic Places, the proposal must also comply with state and federal historic property laws. In this regard, there are special requirements for any involved federal transportation agencies to avoid unnecessary adverse affects to the historic properties. The proposed retrofit and replacement activities could also affect Threatened and Endangered species in the area including Peregrine falcons which nest on the eastern portion of the bridge, Least Terns living near the Alameda Naval Air Station, and Winter Run Chinook Salmon traversing the bay. As the project proponent, Caltrans will need to coordinate its activities with many state and federal agencies charged with environmental resource protection and permit issuance before deciding to proceed with major retrofit and replacement construction actions. Most importantly, the public will be the final voice on the environmental and aesthetic acceptability of the proposed replacement of the eastern structures connecting Yerba Buena Island to the City of Oakland. Public opinions and comments will be sought as the project becomes more defined over the next few months, and during later circulation of the draft and final environmental documents.

Critical SFOBB Retrofit and Replacement Environmental Requirements:

- Compliance with applicable state and federal environmental law requirements
- Compliance with section 106 National Historic Preservation Act of 1966 (dealing with historic aspects of the bridge and related structures)
- Compliance with Threatened and Endangered Species laws
- Compliance with requirements of section 4(f) Department of Transportation Act for participating federal transportation agencies to find that there is no prudent or feasible alternative to retrofitting and replacing portions of the historic Bay Bridge, and that all planning for minimizing harm to the bridge has been performed.
- Consultation and coordination with environmental resource protection and permitting agencies including U.S. Fish and Wildlife Service, U. S. Army Corps of Engineers, National Marine Fisheries Service, Advisory Council on Historic Preservation, U. S. Coast Guard, California Department of Fish and Game, State Historic Preservation Officer, San Francisco Bay Conservation and Development Commission, State Lands Commission, San Francisco Bay Regional Water Quality Control Board, California Department of Toxic Substances Control, Air Resources Board, San Francisco Bay Area Air Quality Management District, Dredge Material Management Office.
- Stakeholders who must become integral participants in developing the best solution for a seismically safe SFOBB include the Cities of Oakland, San Francisco, Berkeley, and Emeryville; San Francisco and Alameda Counties; Metropolitan Transportation Commission; Association of Bay Governments; local elected officials and state and federal legislators; local, state and national environmental and historic preservation organizations; and the traveling, commuting and freight hauling public who will use, look at and ultimately pay for retrofit and replacement of SFOBB structures.
- **Key Environmental Compliance Events**
- Preliminary engineering design begins and maintains a schedule supporting the environmental analyses.
- The scope of environmental studies needs are determined publicly and initiated over the next twelve months.
- A draft Environmental Document released for public review and comment by August 1, 1998.
- A final environmental document and 4(f) finding prepared allowing a Record of Decision to be published by the FHWA by December 31, 1999.
- A decision any time during the replacement approval process that a replacement will not be environmentally, publicly, politically or financially feasible, will cause a redefinition of the project and a reevaluation of the environmental compliance requirements for a retrofit. The appropriate environmental law compliance steps would then be taken as soon as possible to allow expeditious retrofit of the eastern spans.

[Return to Caltrans, District 4 Home Page](#)

Box 2, Folder 3

Item 3

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